

the permeability of a subsurface formation by introducing into the formation a gel which is not water soluble, wherein the gel is made by first polymerizing a water soluble polymer and then cross linking the water soluble polymer.

The method disclosed by Kato fails to explicitly state that the resin prepared is a water insoluble gel. However, Applicant, based on the expression in Kato that the produced resin is "in an aqueous gel state," infers that the Kato resin is a water insoluble gel.

Claims 1, 2 and 6 are not anticipated and are in condition for allowance.

With regard to claims 1, 2 and 6, Kato does not disclose a method of making a water soluble polymer. Kato does not disclose combining an acrylic acid compound (such as acrylic acid), with a reactant selected from the group consisting of a divalent metal salt of the acrylic acid compound (such as magnesium acrylate), a monovalent metal salt of the acrylic acid compound (such as an alkali metal acrylate) and mixtures thereof to form a polymer precursor. Kato does not disclose combining the precursor with a polymerization initiator (such as free radical initiator) to form the water soluble polymer.

In contrast Kato specifically discloses making a mixture of sodium acrylate and magnesium acrylate and reacting the mixture in the presence of a divinyllic containing monomer and a free radical initiator to form the water insoluble gel.

It is clear that Kato does not include acrylic acid in his polymerization mixture and Applicant does not include a divinyllic containing monomer in his polymerization mixture.

Claims 3, 4, 5, 7 and 8 are not anticipated and are in condition for allowance.

With regard to claims 3, 4, 5, 7 and 8, Kato does not disclose combining his resin with a cross linking agent (such as a trivalent metal) to form the water insoluble gel.

In contrast, Applicant claims the step of combining his water soluble polymer with a cross linking agent (such as a trivalent metal) to form the water insoluble gel.

Claims 12 and 13 are not anticipated and are in condition for allowance

With regard to claims 12 and 13, Kato does not disclose a method of making a water soluble polymer by mixing an acrylic acid compound (such as acrylic acid), with a material selected from the group consisting of a divalent metal compound (such as magnesium hydroxide), a monovalent metal compound (such as sodium hydroxide) and mixtures thereof to form a polymer precursor. Kato does not disclose combining the precursor with a polymerization initiator (such as free radical initiator) to form the water soluble polymer.

Claims 14 and 15 are not anticipated and are in condition for allowance.

With regard to claims 14 and 15, Kato does not disclose a method of adjusting the permeability of a subsurface formation by any means, including introducing a water insoluble gel into the formation. Kato does not disclose making the gel by: combining acrylic acid with a reactant selected from the group consisting of an alkaline earth metal salt of acrylic acid, an alkali metal salt of acrylic acid and mixtures thereof to form a polymer precursor; combining the precursor with a polymerization initiator (such as free

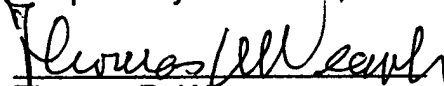
radical initiator) to form a water soluble polymer; and combining the polymer with a cross linking agent to form the gel.

Claim 16 is not anticipated and is in condition for allowance.

With regard to claim 16, Kato does not disclose a method of adjusting the permeability of a subsurface formation by any means including introducing a water insoluble gel into the formation. Kato does not disclose making the gel by: mixing acrylic acid with a material selected from the group consisting of magnesium hydroxide, sodium hydroxide and mixtures thereof to form a polymer precursor; combining the precursor with a polymerization initiator (such as free radical initiator) to form a water soluble polymer; and combining the polymer with a cross linking agent to form the gel.

This application is in condition for allowance. Reconsideration and allowance are requested.

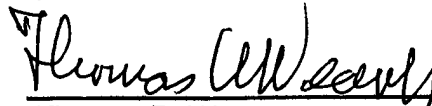
Respectfully submitted,


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CERTIFICATE OF MAILING

I hereby certify that the within and foregoing document, together with the attachments referred to therein, if any, is being deposited by the undersigned with the United States Postal Service as first class mail in an envelope, with sufficient postage, addressed to the Commissioner For Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450 on March 11, 2006.


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